



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/723,898

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Applicant: Mead et al.

Group Art Unit: 1773

Examiner: Kevin R. Kruer

Title: PLASTISOL COATING CONTAINING REFLECTIVE PIGMENTS,
METHOD OF PREPARING COATING ON A SUBSTRATE,
AND PRODUCTS WITH SUCH COATINGS

Attorney Docket: IN-5692
HDP Docket No. 0906S-336

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Pre-Appeal Brief Request for Review

Sir:

Applicants respectfully request review of the final Office Action from July 27, 2006. A Supplemental Amendment and a Notice of Appeal accompany this request. The review is requested for the reasons stated in the following remarks.

Remarks begin on page 2 of this paper.

REMARKS

Claims 7, 10, 11, 13, 14, 16-20, and 25-26 are pending in the application. In the accompanying amendment, Applicants have amended the independent claims to render moot the 35 USC 103(a) rejection based on Stamper et al. (US Pat. No. 4,574,103). This Pre-Appeal Brief Request for Review, therefore, focuses on the patentability of the pending claims under 35 USC 103(a) based on Ravinovitch et al. (US Pat. No. 4,424,292) (hereinafter Ravinovitch) in view of Kraft et al. (US Pat. No. 4,056,397).

Ravinovitch in view of Kraft fails to establish a prima facie case of obviousness since the combination fails to teach or suggest two claim limitations.

All of the independent claims include a layer that is “from about 2 mils to about 5 mils thick” and an amount of infrared reflective pigment such that “there is essentially no transmittance of light of near infrared wavelength.” Applicants submit that at least these two features are missing from Ravinovitch in view of Kraft.

Ravinovitch teaches compositions for making vinyl house siding where the siding may be all one piece, or it may be an extruded composite of a capstock over a substrate, with the capstock containing the infrared reflecting pigment. Ravinovitch col. 3, lines 13-22. The various capstock samples of Example I in Ravinovitch had thicknesses of 0.45 in., which is 450 mils. Ravinovitch col. 4, line 58 to col. 5, line 1. Ravinovitch does not teach or suggest any other capstock thickness, nor does the reference provide any motivation for changing the capstock thickness, nor does Ravinovitch teach using a film in place of the thicker capstock. In addition, the Kraft

reference does not teach or suggest capstock of any thickness whatever for vinyl house siding.

Ravinovitch also does not teach including the pigment in a sufficient amount so that ‘there is essentially no transmittance of light of near infrared wavelength through the film’ as the Examiner admits. Office Action from July 27, 2006, page 3. The addition of Kraft, which was applied to address these shortcomings, still does not suggest this limitation.

Kraft teaches photographic monosheet material that contains a light reflecting pigment layer designed to reflect visible light in order to mask the image silver and form a light proof seal. Kraft abstract; col. 1, lines 4-5; col. 2, lines 49-50. The thickness of the layer may be varied according to the desired whiteness of the background. Kraft col. 8, lines 30-32. The Examiner agreed with Applicants that, “at best, Kraft informs the skilled artisan that increasing a pigment layer thickness can increase reflectivity.” Advisory Action from Oct. 17, 2006, page 2.

The straightforward combination of Ravinovitch with Kraft would therefore necessarily involve increasing the material thickness (as taught by Kraft), where the material is either in the form of siding or capstock, to the point where there is no IR transmittance. Assuming, in arguendo, that capstock is thinner than siding, taking the Ravinovitch capstock and applying the teachings of Kraft, the skilled artisan would be led to make a capstock having a thickness of greater than 450 mils. Therefore, the combination of these references fails to render the present claims obvious in that the combination does do teach or suggest layers or films “from about 2 mils to about 5 mils

“thick” with an amount of infrared reflective pigment such that “there is essentially no transmittance of light of near infrared wavelength.”

Moreover, Ravinovitch in view of Kraft, in effect, teaches away from the present claims. If a skilled artisan were to combine Ravinovitch with the Kraft teachings, the skilled artisan would take the capstock from Ravinovitch and, applying the result effective variable from Kraft, would consequently increase the thickness in order to optimize the reflection spectra of the layer to the point that there is no transmittance of IR light. Since the capstock disclosed in Ravinovitch is 450 mils, the skilled artisan would only be motivated to increase the thickness, thereby producing capstock greater than 450 mils. Consequently, the combination of these references does not teach or suggest a film or layer about 2 mils to about 5 mils thick. “A prima facie case of obviousness can be rebutted if the applicant ... can show ‘that the art in any material respect taught away’ from the claimed invention.” *In re Geisler*, 116 F.3d 1465, 1469, 43 USPQ2d 1362, 1365 (Fed. Cir. 1997) (quoting *In re Malagari*, 499 F.2d 1297, 1303, 182 USPQ 549, 553 (C.C.P.A. 1974)). “A reference may be said to teach away when a person of ordinary skill, upon reading the reference,...would be led in a direction divergent from the path that was taken by the applicant.” *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 USPQ2d 1294, 1298 (Fed. Cir. 1999).

Sullivan fails to overcome the deficiencies of the Ravinovitch and Kraft references and the three references cannot render claims 14 and 18 obvious.

The Sullivan reference, which teaches coating metal substrates (col. 6, lines 49-53), is applied in addition to the Ravinovitch and Kraft references to reject claims 14 and

18. However, as demonstrated in the preceding section, a skilled artisan modifying the teachings of Ravinovitch with the proposition from Kraft would produce a capstock layer of > 450 mils in any attempt to optimize reflectivity and produce a layer having essentially no transmittance of light of near infrared wavelength. The Sullivan reference is silent on these subjects – it is provided basically for the notion of coating metallic substrates.

Thus, no combination of these references would produce a film or coating layer from about 2 mils to about 5 mils that is applied to an aluminum article and that provides essentially no transmittance of light of near infrared wavelength.

Conclusion

For the reasons illustrated herein, Applicants believe claims 7, 10, 11, 13, 14, 16-20, and 25-26 are patentable. Thus, prompt and favorable consideration is respectfully requested. If the Review Board believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

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